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Abstract

Low frequency vibration induced noise is reduced in a towed sonar array of the type comprising a number of oil-filled modules joined end to end with each module housing a plurality of hydrophones by arranging that the signal output from each hydrophone in an array is equally weighted at low frequencies to form a single channel. Beamforming is then carried out by applying different weights to the different module channels. High modulus internal strength members are included in each module to resist anti-phase vibration of the couplings at the end of the module. The hydrophone spacing and the coupling lengths are both made small compared to the module length to improve vibration noise reduction.

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